



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/519,869	12/21/2005	Adele Charmaine Shaw	9052-211	9299
20792 7590 10/18/2007 MYERS BIGEL SIBLEY & SAJOVEC PO BOX 37428 RALEIGH, NC 27627			EXAMINER FIORITO, JAMES	
			ART UNIT 1793	PAPER NUMBER
			MAIL DATE 10/18/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/519,869	Applicant(s) SHAW, ADELE CHARMAINE	
	Examiner James A. Fiorito	Art Unit 1754	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-13 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-13 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>1/05</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 4-6, 8, and 13 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Kirkham US 4582637.

Kirkham teaches solid fixation of the radioactive-reprocessed product of Magnox fuel from the first generation of British nuclear power stations uranium metal fuel encapsulated in magnesium alloy cans (Column 1, Lines 25-30). The radioactive-reprocessed product is fixated in cement matrices (Column 1, Lines 48-51).

Claims 3, 7, and 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kirkham US 4582637 in view of Noakes US 4416810.

Kirkham does not expressly state that the cementitious material is Portland Cement.

Noakes teaches a radioactive material cement fixation process, wherein the cementitious material comprises Portland Cement (Column 1, Lines 41-50).

At the time of invention it would have been obvious to a person of ordinary skill in the art to perform the method of Kirkham including the use of Portland Cement as the cementitious material in view of the teaching of Noakes. The suggestion or motivation for doing so would have to fixate the radioactive material in a matrix that has good compressive strength, leach, and heat resistance so that it can be transported in the solid state and stored at suitable radioactive solid storage sites (Column 1, Lines 44-49).

Kirkham does not expressly state that the nuclear material is placed in a container.

Noakes teaches that radioactive cement fixation mixtures may be cast into 55-gallon drums or other appropriate size containers (Column 8 Lines 3-11). The mixtures are cured in the containers up to 60 days.

At the time of invention it would have been obvious to a person of ordinary skill in the art to form the process of Kirkham including radioactive cement fixation mixtures may be cast into 55-gallon drums or other appropriate size containers and the mixtures are cured in the containers up to 60 days in view of the process of Noakes. The suggestion or motivation for doing so would have been to reduce the possibility of inadvertent mishaps (Column 8 Lines 9-11).

Art Unit: 1754

With respect to claims 10-12, it is well settled that determination of optimum values of cause effective variables such as these process parameters is within the skill of one practicing in the art. *In re Boesch*, 205 USPQ 215 (CCPA 1980).

Claims 1, 4-6, 8, and 13 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Hess US 5946639.

Hess teaches that magnesium swarf generated from mechanically stripping-off Magnox fuel cladding from British gas cooled reactor fuel (Column 2 Lines 20-24). The swarf contains uranium and furnace slag (Column 2 Lines 24-26).

Claims 3, 7, and 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hess US 5946639 in view of Noakes US 4416810.

Hess does not expressly state that the encapsulating material is Portland Cement.

Noakes teaches a radioactive material cement fixation process, wherein the cementitious material comprises Portland Cement (Column 1, Lines 41-50).

At the time of invention it would have been obvious to a person of ordinary skill in the art to perform the method of Hess including the use of Portland Cement as the cementitious material in view of the teaching of Noakes. The suggestion or motivation for doing so would have to fixate the radioactive material in a matrix that has good compressive strength, leach, and heat resistance so that it can be transported in the

Art Unit: 1754

solid state and stored at suitable radioactive solid storage sites (Column 1, Lines 44-49).

Hess does not expressly state that the nuclear material is placed in a container.

Noakes teaches that radioactive cement fixation mixtures may be cast into 55-gallon drums or other appropriate size containers (Column 8 Lines 3-11). The mixtures are cured in the containers up to 60 days.

At the time of invention it would have been obvious to a person of ordinary skill in the art to form the process of Hess including radioactive cement fixation mixtures may be cast into 55-gallon drums or other appropriate size containers and the mixtures are cured in the containers up to 60 days in view of the process of Noakes. The suggestion or motivation for doing so would have been to reduce the possibility of inadvertent mishaps (Column 8 Lines 9-11).

With respect to claims 10-12, it is well settled that determination of optimum values of cause effective variables such as these process parameters is within the skill of one practicing in the art. *In re Boesch*, 205 USPQ 215 (CCPA 1980).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James A. Fiorito whose telephone number is (571)272-7426. The examiner can normally be reached on 9am - 6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman can be reached on (571) 272-1358. The fax phone

Art Unit: 1754

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

James Fiorito
Patent Examiner
AU 1793

JF

Wayne A. Langel
Wayne A. Langel
Primary Examiner